7 Dec 1988

TS3NF-A

TEST SET, LOGIC

1. GENERAL. This procurement requires a hand-held logic troubleshooting probe capable of indicating logic levels in transistor-transistor-logic (TTL) and complimentary metal-oxide semiconductor (CMOS) logic circuits.

2. CLASSIFICATION. Type II, Class 5, Style E and Color R in accordance with MIL-T-28800 except the nominal power source requirements are not invoked.

3. OPERATIONAL REQUIREMENTS. The probe shall be capable of in-circuit logic level analysis of TTL and CMOS circuits within the minimum parameters detailed below.

3.1 Logic levels.

A. TTL:

1. Logic ONE: 1.8 to 2.4V peak.

2. Logic ZERO: 0.4 to 1V peak.

B. CMOS: 3 to 10 Vdc supply

1. Logic ONE: 0.7 x Vsupply ±0.5 Vdc.

2. Logic ZERO: 0.3 x Vsupply ±0.5 Vdc.

C. CMOS: 10 to 18 Vdc supply

1. Logic ONE: 0.7 x Vsupply ±1.0 Vdc.

2. Logic ZERO: 0.3 x Vsupply ±1.0 Vdc.

3.2 Pulse width. 10 ns minimum. A pulse stretching feature shall be provided to allow viewing of narrow pulses.

3.3 Pulse repetition frequency limit. TTL: 80 MHz. CMOS: 40 MHz.

3.4 Impedance. 25 kilohms.

3.5 Display. The probe shall indicate logic highs, logic lows, open and short circuits, and excessive input levels by means of a light.

3.6 Probe overload protection. 120V continuous from dc to 1 KHz.

4. GENERAL REQUIREMENTS.

4.1 Power supply. The probe shall be powered by the circuit under test. Overvoltage protection: ±25 Vdc for 1 minute.

4.2 Weight. 1 kg (2.2 lb) maximum.

4.3 Lithium batteries. Per MIL-T-28800, lithium batteries are prohibited without prior authorization. A request for approval for the use of lithium batteries, including those encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.